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13. ABSTRACT (Maximum 200 words) The AFOSR grant provided travel funds for a group of American engineers and scientists who gave invited lectures at the FENOMECH '81 symposium, which represented the second international conference on finite elements in nonlinear mechanics held by West Germany during August 25-28, 1981. Nearly 5000 distinguished scientists representing 2 countries and four continents gathered to attend 24 main lectures and 20 submitted shorter contributions on nonlinear mechanics. The papers covered recent developments in the theory and practice of finite element methods for solids, structures, fluids, and thermodynamics. A lively and fruitful exchange of information took place between participants and lecturers. The meeting resulted in three special issues of the journal, Computer Methods in Applied Mechanics and Engineering, and was also published separately by the North-Holland Publishing Company, Amsterdam in a book entitled FENOMECH '81, and edited by J.S. Doltsinis, K Straub, and K J Willam.			
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*Support of U.S. Delegation to Finite
Elements in Nonlinear Mechanics (FENOMECH)*

Final Conference ...

to U.S. AIR FORCE OFFICE OF SCIENTIFIC RESEARCH

Contract AFOSR-81-0237

AFOSR-IX. 9-1640

The AFOSR provided travel expenses for a group of American engineers and scientists who gave invited lectures at the FENOMECH '81 symposium, which represented the second international conference on finite elements in nonlinear mechanics to be held by West Germany during August 25-28, 1981. Nearly 500 distinguished scientists representing 20 countries and four continents gathered to attend 24 main lectures and 20 submitted shorter contributions on nonlinear mechanics. The papers covered recent developments in the theory and practice of finite element methods for solids, structures, fluids, and thermodynamics. A lively and fruitful exchange of information took place between participants and lecturers. The meeting resulted in three special issues of the journal, Computer Methods in Applied Mechanics and Engineering, and was also published separately by the North-Holland Publishing Company, Amsterdam in a book entitled FENOMECH '81, and edited by J.S. Doltsinis, K. Straub, and K.J. Willam. This voluminous collection of papers, totalling over 1100 pages, is divided into three major parts. In Part I, there are four papers on computational mechanics of solids and fluids, three papers on stability analysis and four papers on buckling and post-buckling. Part II includes four papers on finite deformation elastoplasticity, three papers on plastic structures, three on inelastic problems, and four on fluid structure interaction. Part III includes two papers on general numerical methods, four on contact problems, three on computational techniques, two on plates and shells, and an additional five on nonlinear applications.

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There is probably no work published in the last five years that has a more impressive and useful collection of papers or which represents better the current state of the art in finite element analysis. Special mention is made of the support from the U.S. Air Force Office of Scientific Research, and without this support, this important meeting would not have been the success it definitely was.

Organizers of the meeting were John H. Argyris, University of Stuttgart, T.J.R. Hughes, Stanford University, J.T. Oden, University of Texas, K.S. Fister, University of California, and the late K. Washizu, University of Tokyo.

A list of participants at the meeting is attached. Also attached is a copy of the cover page of the Proceedings and a copy of the Table of Contents.



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FENOMECH '81

INTERNATIONAL CONFERENCE ON
FINITE ELEMENTS IN NONLINEAR MECHANICS

August 25 - 28, 1981

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